

PAPERS READ BEFORE THE SOCIETY FROM FEBRUARY 1891  
TO JANUARY 1892.

1891.

- Mar. 13. Ephemerides of the satellites of *Uranus*, 1891. A. Marth.
- Ephemeris for physical observations of the Moon, 1891, Feb. 12 to May 5. A. Marth.
- On the determination of double-star orbits from spectroscopic observations of the velocity in the line of sight. A. A. Rambaut.
- The Companions of *Aldebaran*. S. W. Burnham.
- Catalogue of 918 orbits of meteor streams, from the observations of Mr. W. F. Denning. J. Kleiber.
- Mean places of comparison stars for the planets *Victoria* and *Sappho*, observed with the Cambridge transit-circle. Communicated by Professor J. C. Adams.
- Observations of the satellites of *Saturn*: conjunctions with the centre of the planet, observed at Mr. E. Crossley's Observatory, Bermerside, Halifax. J. Gledhill.
- Observation of the variable star S (10) *Sagittæ*. J. E. Gore.
- The orbit of  $\kappa$  *Pegasi* ( $\beta$  989). S. W. Burnham.
- Measures of double stars made at Sydney Observatory in the years 1882-89. Communicated by H. C. Russell.
- Comparison of the star-places of the Greenwich Ten-year Catalogue with those of the Second Melbourne General Catalogue, and with those of the Cape Catalogue for 1880. A. M. W. Downing.
- Double-star measures, made at Windsor, New South Wales, 1889 and 1890. John Tebbutt.
- Note on the orbit of *Juno*. A. M. W. Downing.
- Ephemeris for physical observations of *Jupiter*, 1891. A. Marth.
- Observations of the planet *Victoria* and comparison stars, made with the transit-circle of the Radcliffe Observatory Oxford, during the opposition of 1889. Communicated by E. J. Stone.
- Notes on the preparations for the Astro-photographic Chart at the Royal Observatory, Greenwich. Communicated by the Astronomer Royal.

- Mar. 13. Variations of latitude deduced from the observations of *Polaris*, made at Greenwich, 1851–89. Professor H. G. van de Sande Bakhuyzen.  
 Note on the parallax of  $\beta$  *Aurigæ*. Professor C. Pritchard.
- Apr. 10. *Sirius*. S. W. Burnham.  
 Observations of phenomena of *Jupiter's* satellites, made at Windsor, New South Wales, in the year 1890. John Tebbutt.  
 Reduction of measures of the photographs of *Jupiter*, taken at the Lick Observatory in 1890. A. Stanley Williams.  
 Sur la détermination récente de la longitude Paris-Greenwich. Col. Bassot and Commandant Defforges.  
 On the recent determination of the longitude Paris-Greenwich; reply to Colonel Bassot and Commandant Defforges. H. H. Turner.  
 On the orbit of the periodic Comet 1867. I. Dr. Ludwig Becker.  
 Invisible double stars. S. W. Burnham.  
 A comparison of the north polar distances of the *Nautical Almanac* for 1880 with the Cape Catalogue, the Greenwich Ten-year Catalogue, and Boss's Standard Star places for 1880. W. G. Thackeray.  
 Approximate proper motions of certain Groombridge stars. W. G. Thackeray.  
 The perturbations of *Sappho* (80). R. Bryant.  
 Ephemeris for physical observations of the Moon, 1891. A. Marth.
- May 8. On the character of the chief line of the nebula in *Orion*. K. D. Naegamvala.  
 Photograph of *Neptune* and its satellite. Isaac Roberts.  
 Photograph of the region of Hind's variable nebula in *Taurus*. Isaac Roberts.  
 Photograph of the cluster 44 M *Cancri* (the *Præsepe*). Isaac Roberts.  
 Further experience regarding the magnitude of stars, as obtained by photography at the Oxford University Observatory. Professor C. Pritchard.  
 On a new dome to be erected at the Royal Observatory, Greenwich. W. H. M. Christie.
- June 12. Notes on some star photographs recently taken at the Sydney Observatory. No. 2. H. C. Russell.  
 The Companions to *Regulus*. S. W. Burnham.  
 Probable early observation of an immersion of *Titan*. Rev. S. J. Johnson.

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- June 12. On the transit of *Mercury*, 1891 May 9, as seen at Daba Gardens, Vizagapatam. A. V. Nursingrow.  
 Observations of the transit of *Mercury*, 1891 May 9. K. D. Naegamvala.  
 Proper motions of twenty southern stars. Dr. J. L. E. Dreyer.  
 A method of photographing the invisible solar prominences. G. E. Hale.  
 Photographs of the metallic spectra. Frank McClean.  
 Observations of the Moon, made at the Radcliffe Observatory, Oxford, during the year 1890, and a comparison of the results with the tabular places from Hansen's Lunar Tables. E. J. Stone.  
 Observations of the partial solar eclipse of 1891 June 6, made at the Radcliffe Observatory, Oxford. Communicated by E. J. Stone.  
 Data for computing the positions of the satellites of *Jupiter*, 1891; with tables of the inequalities. A. Marth.  
 Ephemeris for physical observations of the Moon, 1891. A. Marth.  
 Observations of the transit of *Mercury*, 1891 May 9, made at the Royal Observatory, Edinburgh. Dr. R. Copeland.  
 The orbit of 36 *Andromedæ* ( $\Sigma$  73). T. Lewis.  
 Preliminary note on the change of personal equation with stellar magnitude in transits, observed with the transit-circle at the Royal Observatory, Greenwich. W. H. M. Christie.
- Nov. 13. The transit of *Mercury*, 1891 May 9, observed at Sydney Observatory. Communicated by H. C. Russell.  
 The motion of 20 *Draconis*. S. W. Burnham.  
 Observations of the transit of *Mercury*, 1891 May 10. W. J. McDonnell.  
 Observations of the conjunction of *Venus* and *Jupiter*, 1891 April 7. John Tebbutt.  
 Observations of the solar eclipse of 1891 June 6, made at the Royal Observatory, Greenwich. Communicated by the Astronomer Royal.  
 Observations of the planet *Jupiter* and his satellites during 1890, with the 12-inch equatoreal of the Lick Observatory. E. E. Barnard.  
 Note on the first satellite of *Jupiter*. E. E. Barnard.  
 On the phenomena of the transits of the first satellite of *Jupiter*. E. E. Barnard.  
 Ephemeris for physical observations of the Moon, 1891 November 9 to December 25. A. Marth.

- Nov. 13. Ephemeris of the satellite of *Neptune*, 1891-92. A. Marth.  
 Ephemerides of the satellites of *Saturn*, 1891-92. A. Marth.  
 On the orbit of Spitaler's comet (vii. 1890). Lieut.-Gen. J. F. Tennant.  
 On the determination of azimuth by elongations of *Polaris*. H. Jacoby.  
 Colour changes in the markings on the surface of the planet *Jupiter*. E. E. Barnard.  
 Observations on the spots and markings on the planet *Jupiter*, made with the 12-inch equatoreal of the Lick Observatory. E. E. Barnard.  
 On the determination of a certain class of inequalities in the Moon's motion. E. W. Brown.  
 Measures of planetary nebulae made with the 36-inch equatoreal of the Lick Observatory. S. W. Burnham.  
 Corrections and additions to the observations of *Sirius*. S. W. Burnham.  
 Mean areas and heliographic latitudes of Sun-spots in the year 1890; deduced from photographs taken at Greenwich, at Dehra Dûn (India), and in Mauritius. Communicated by the Astronomer Royal.  
 Observations of Wolf's periodical comet (*b* 1891). Communicated by the Astronomer Royal.  
 On new forms of levels. H. H. Turner.  
 On the supposed duplicity of the first satellite of *Jupiter*. A. Stanley Williams.  
 Double-star measures, 1888-91. W. H. Maw.  
 On the reduction of transit observations by the method of least squares. H. Jacoby.  
 Re-appearance of *Saturn's* ring. Rev. A. Freeman.  
 A note on some photometric experiments connected with the application of the law of limiting apertures to small object-glasses. E. J. Spitta.  
 Comparative photographic spectra of the Sun and the metals, series I.-II. Frank McClean.  
 Ephemerides of the satellites of *Saturn*, 1891-92. A. Marth.  
 Note on some photographs of *Jupiter*, taken with the 5-foot reflecting telescope. A. A. Common.  
 Note on the Lunar Theory. Professor A. Cayley.
- Dec. 11. The motion of  $\Sigma$  2525. S. W. Burnham.  
 Observations of Comet Barnard, 1891, made at Sydney Observatory. Communicated by H. C. Russell.  
 On the close conjunction of *Venus* and *Jupiter*, 1892 Feb. 5-6. A. Marth.

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Dec. 11. Note on the Stonyhurst drawings of solar spots and faculæ. Rev. W. Sidgreaves.

Secular perturbation of the Earth's orbit by *Mars*.  
R. T. A. Innes.

Observations of Comet Encke, made at the Radcliffe Observatory, Oxford. Communicated by E. J. Stone.

Observations of Comet *b*, 1891 (Wolf), made at the Royal Observatory, Greenwich. Communicated by the Astronomer Royal.

On the spectrographic method of determining the velocity of stars in the line of sight. Professor H. C. Vogel.

Note on some apparently variable nebulæ. Dr. J. L. E. Dreyer.

Note on the variability of Es-Birm. 973 = D.M. + 39°, 4208. Rev. T. E. Espin.

On the verification of the expressions given in Delaunay's Lunar Theory by a direct differentiation and substitution in the differential equations. E. J. Stone.

On the distribution of temperature in the transit-circle room at the Royal Observatory, Greenwich. H. H. Turner.

On the construction of a 5-foot equatorial reflecting telescope. A. A. Common.

1892.

Jan. 8. Re-appearance of *Saturn's* ring, and position-angle before the disappearance, observed at the Observatory, Utrecht. Professor J. C. Oudemans.

Observations of occultations of faint stars during the total eclipse of the Moon on 1891 Nov. 15. Communicated by Dr. D. Gill.

On the observations for coincidence of the collimators through the cube of the transit-circle at the Royal Observatory, Greenwich. H. H. Turner.

On the phenomena of the transit of the first satellite of *Jupiter*, and observations of the red spots on the planet. E. E. Barnard.

Observations of the phenomena of *Jupiter's* satellites, &c., in 1891, made at Mr. E. Crossley's Observatory, Bermerside, Halifax. J. Gledhill.

On the dynamics of the Earth's rotation with respect to the periodic variations of latitude. Professor S. Newcomb.

Observations of the total eclipse of the Moon, 1891 Nov. 15, at Edinburgh. Dr. R. Copeland.

A new photographic photometer for determining star-magnitudes. W. E. Wilson.

Observations of double stars, made at Mr. E. Crossley's Observatory, Bermerside, Halifax. J. Gledhill.

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- Jan. 8. The red stars in the great *Perseus* clusters. Rev. T. E. Espin.
- On the investigation of the division errors of the scales of the Repsold measuring apparatus at the Cape Observatory, and the determination of the errors of the Oxford *réseau*. Dr. D. Gill.
- Ephemerides of the satellites of *Saturn*, 1891-92 (continued). A. Marth.
- On the relation between diameter of image, duration of exposure, and brightness of object in photographs of stars taken at the Royal Observatory, Greenwich. W. H. M. Christie.
- Observations of occultations of stars by the Moon and of phenomena of *Jupiter's* satellites, made at the Royal Observatory, Greenwich, in the year 1891. Communicated by the Astronomer Royal.
- Note on some values of the Sun's mean horizontal parallax which have been deduced from the Transit of *Venus* observations made in 1882. E. J. Stone.
- Ephemeris of *Juno* near the time of opposition, 1891, from the corrected elements published in *Monthly Notices*, vol. 1. page 495. Communicated by the Superintendent of the *Nautical Almanac*.